CLAIMS

1. A test tube, comprising:

a tube body of unitary construction comprising an enclosed sidewall and an integral bottom surface that together define a tubular container having an open top, wherein said bottom surface has a concave interior surface and a planar exterior surface upon which machine readable data is encoded within multi-layered opaque coatings of contrasting colors that are deposited onto said planar exterior surface to uniquely identify said test tube.

2. The test tube of claim 1, wherein said multi-layered opaque coating comprises:

a first layer of light colored opaque material deposited onto said planar exterior surface; and

a second layer of dark colored opaque material deposited onto said first layer, wherein select portions of said second layer are removed to define a machine readable data matrix code indicative of said test tube.

3. The test tube of claim 1, wherein said sidewall is defined by a plurality of segments having different cross sections, said plurality of segments comprising:

a first cylindrical sidewall segment integral with said bottom surface;

a second cylindrical sidewall segment; and

a truncated conical segment located between said first and second cylindrical sidewall

segments and having increasing diameter closer to said open top.

4. The test tube of claim 3, wherein said multi-layered planar coating comprises:

a first layer of opaque white material deposited on said exterior planar surface; and

a second layer of opaque black material deposited on said first layer.

5. The test tube of claim 3, wherein said multi-layered planar coating comprises:

a first layer of white foil deposited on said exterior planar surface; and

a second layer of black foil deposited on said first layer.

6. A method of manufacturing a test tube, comprising the steps of:

providing a tube body of unitary construction comprising an enclosed sidewall and an integral bottom surface that together define a tubular container having an open top, wherein said bottom surface has a concave interior surface and a planar exterior surface;

depositing a multi-layered opaque coating onto the planar exterior surface to provide a data matrix code that uniquely identifies the test tube, wherein said step of depositing comprises the steps of

(i) depositing a first layer of opaque material onto the planar exterior surface;

(ii) depositing a second layer of opaque material onto the first layer, wherein the first layer and the second layer are contrasting colors; and

(iii) removing portions of the second layer to define the data matrix code.

7. The method of claim 6, wherein said step of depositing a first layer comprises the step of hot stamping the first layer onto the planar exterior surface.

8. The method of claim 7, wherein said step of depositing a second layer comprises the step of hot stamping the second layer onto the first layer.

9. The method of claim 8, wherein said step of removing portions of the second layer to define the data matrix code comprises the step of applying a coherent light source to remove the select portions of the second layer to define the data matrix code.

10. The method of claim 9, wherein the coherent light source is a laser.

11. A method of marking a test tube having a tube body of unitary construction comprising an enclosed sidewall and an integral bottom surface that together define a tubular container having an open top, wherein the bottom surface has a concave interior surface and a planar exterior surface, said method of marking comprising the steps of:

depositing a multi-layered opaque coating onto the planar exterior surface to provide a data matrix code that uniquely identifies the test tube, wherein said step of depositing comprises the steps of

(i) depositing a first layer of opaque material onto the planar exterior surface;

(ii) depositing a second layer of opaque material over the first layer, wherein the first layer and the second layer are contrasting colors; and

(iii) removing portions of the second layer to define the data matrix code.

12. The method of claim 11, wherein said step of depositing a first layer comprises the step of hot stamping the first layer of opaque material onto the planar exterior surface.

13. The method of claim 12, wherein said step of depositing a second layer comprises the step of hot stamping the second layer of opaque material onto the first layer.

14. The method of claim 13, wherein said step of removing portions of the second layer to define the data matrix code comprises the step of applying a coherent light source to remove the select portions of the second layer to define the data matrix code.

15. The method of claim 14, wherein said coherent light source is a laser.

16. The method of claim 11, further comprising the step of:

depositing a multi-layered opaque coating onto the enclosed sidewall to provide a second data matrix code that uniquely identifies the test tube.

17. The method of claim 16, wherein said step of depositing a multi-layered opaque coating onto the enclosed sidewall comprises the steps of:

(i) depositing a first sidewall layer of opaque material onto the exterior sidewall;

(ii) depositing a second sidewall layer of opaque material over the first sidewall layer, wherein the first sidewall layer and the second sidewall layer are contrasting colors; and

(iii) removing portions of the second sidewall layer to define the second data matrix

code.

18. The method of claim 11, further comprising the step of removing portions of the second layer to define a human readable alphanumeric code.

19. The method of claim 11, further comprising the step of removing portions of the second layer to define a human readable alphanumeric code around the periphery of the planar exterior surface.

20. A test tube, comprising:

a cylindrical side wall open at its upper end and closed at its lower end by a bottom wall, said bottom wall having a concave interior surface and a planar exterior surface;

a covering integrally applied to said exterior surface, said covering having a first layer overlying a second layer, said first and second layers being opaque and of contrasting colors; and

machine readable data encoded into said covering by selective removal of portions of said first layer in order to expose corresponding underlying portions of said second layer.

21. A test tube, comprising:

a tube body of unitary construction comprising an enclosed sidewall and an integral bottom surface that together define a tubular container having an open top, wherein said bottom surface has a concave interior surface and a planar exterior surface upon which machine readable data is

encoded within an opaque coating of contrasting colors deposited onto said planar exterior surface to ~~uniquely~~ identify said test tube.